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HAMEAU1

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EXAMINER

VAUGHAN, MICHAEL R

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,325	Applicant(s) HAMEAU ET AL.	
	Examiner MICHAEL R. VAUGHAN	Art Unit 2431	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 10-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 10-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/12/09 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The instant application having Application No. 10/540325 is presented for examination by the examiner. Claims 2-9 have been canceled. Claims 10-19 have been added. Claim 1 has been amended. Claims 1 and 10-19 are pending.

Response to Amendment

Drawings

The new drawings are objected because it lacks a number by which is referred to. Also reference labels would be helpful in understanding the invention. Furthermore the specification could be clearer if the steps recited on page 3 were referenced by the needed drawing labels. The figure should be labeled as Figure 1.

Specification

As mentioned above, the specification discloses a method of the invention on page 3. The references to the drawing by variable name are not sufficient in understanding the method as it relates to the lines and elements drawn in the figure. Reference to the figure should be by its needed label of number 1.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 10-19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 1 and its dependent claims the naming and referencing to the possessor(s) are not consistent. Examiner cannot ascertain which possessor are functions been applied to, nor how many possessors exist. Sometimes the possessor is recited by "a", "each", "this", on more than one occasion. In the first recitation of the possessors, "at least possessors" is indefinite as well. Does this mean at least two? The definition of possessors and requesters are not definitive and distinct. Possessors are redefined by "a possessor" throughout the dependent claims. Appropriate correction is required.

As per claim 1, the word "each" and "the relevant data" lacks antecedent basis.

As per claim 11, the user and the operating system lack antecedent basis.

As per claim 12, there seems to be a word missing between "and memory manger". A page is defined twice.

As per claim 13, the functions lacks antecedent basis.

As per claim 16, it is not clear which term "the latter" refers too.

As per claim 17, there seems to be some words messing between claim 1 and associating. For example if the claim read "...method according to claim 1 further

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comprising different ...", it would be clearer. This not a recommendation of how to change the claim, rather it is just an example of how to further narrow the parent claim by saying it further comprises another limitation.

As per claim 18, it is not clear how a physical protection mechanism is coupled to the method of claim 1.

As per claim 19, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Response to Arguments

Applicant's arguments filed 2/12/09 have been fully considered but they are not persuasive. As per claim 1, Examiner maintains that the prior art of record Flenley anticipates all of the limitations given their broadest reasonable interpretation. The memory allocation units of Flenley are the actual blocks of memory which contain a component control block (col. 3, lines 25-30). The CCB contains many variables which control access to the memory. Examiner also finds Flenley to check the identity of the requester. As claimed, there is nothing which precludes the requester from being the user of the system. Flenley verifies the user's identity (col. 4, lines 60-67). Also there is nothing in the claim which discloses that encryptions keys are created for each possessor. The argument implies the memory manager creates the keys for the

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possessor but none of these limitations are in the claim, so the point is moot. Moreover, Examiner finds column 4, lines 60-65 to teach the shared memory controller to used to check and verify the user's identity. Again as interpreted by the Examiner, the requestor is the user. Lastly, Examiner finds the argument about checking the validity of an allocation unit in regards to claim 1 moot because this limitation is not in the claim. However turning to claim 16 which does disclose an area for integrity checking, can be found in Flenley in col. 3, lines 61-62. Flenley explicitly states the integrity of each variable name is validated in memory. Claim 16 discloses no more than this interpretation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 11-13, 15, 16, 18, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by USP 6,282,618 to Flenley, hereinafter Flenley.

As per claim 1, Flenley teaches a method for securing by software confinement, a computer system which executes codes which manipulate data (see Abstract), involving:

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at least one memory manager [shared memory controller] managing memory allocation units (col.3, lines 19-20 & col. 3, lines 66- col. 4, lines 2), and

at least possessors [application] and requesters [users] of memory allocation units (col. 3, lines 14-15 and col. 6, lines 60-65),

said method comprising the following steps:

performing an allocation of memory by the memory manager (col. 3, lines 16-19) upon request from another component of the operating system which transmits to said memory manager, the identity of the requester (col. 6, lines 65-66);

a check by the aforesaid memory manager of the whole of the allocation units, each being associated with a possessor of the memory allocation unit [checks memory space for existing webpage] (col. 3, lines 47-55);

an encryption of the data of each possessor by means of a key associated with this possessor (col. 4, lines 36-39);

a check by the memory manager, for each request to access a memory allocation unit, of the identity of the requester; if this identity is not identical to that of the possessor of said memory allocation unit, then access to the memory allocation unit is refused by the memory manager (col. 4, lines 62-65 and col. 5, lines 6-9); and a performance, by means of the memory manager, of encryption (in the case of a write request)[stored in shared memory] (col. 4, lines 40-45) or decryption [GetVariableEnc] (in the case of a read request) of the relevant data with the key associated with the possessor, this key being at least recalculated by the memory manager (col. 4, lines 46-47).

As per claim 10, Flenley teaches one of said memory allocation units is a page with a fixed size or a block with a variable size (col. 3, line 20).

As per claim 11, Flenley teaches one of said possessors or requesters is an application of the user of the operation system of the computer system or the operating system itself [possessor is application; col. 1, lines 45-55].

As per claim 12, Flenley teaches the allocation unit is the page (col. 3, lines 39-40), and the memory manager, when it receives a request for allocating a block on behalf of a possessor of a memory allocation unit, first searches for a page with the same possessor so that all the blocks allocated by said possessor are found grouped in one or several dedicated pages (col. 3, line 67- col. 4, line 14). Flenley teaches that data is group by each web page accessing the shared memory whereby all is needed in an offset pointer to direct the possessor to the needed data inside the block (col. 3, line 35).

As per claim 13, Flenley teaches transmission of the identity of the requester is accomplished either by managing a current context, or by passing parameters to the functions of the memory manager (col. 5, lines 40-43).

As per claim 15, Flenley teaches the memory manager associates the key with each set of possessor and memory allocation unit instead of associating a unique key with each possessor (col. 4, lines 40-45). Flenley teaches the memory allocation unit, CCB, has a possessor and key.

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As per claim 16, Flenley teaches the memory manager integrates into each memory allocation unit, an area with which the integrity of the latter may be checked (col. 3, lines 63-64).

As per claim 17, Flenley teaches the memory manager integrates into each memory allocation unit, an area with which the integrity [validity] of the latter may be checked [checks the validity of the parameters] (col. 3, lines 57-61).

As per claim 18, Flenley teaches combining with a physical protection mechanism (col. 4, lines 35-36).

As per claim 19, Flenley teaches implementation on an embedded system [ATM] such as a terminal of the portable telephone type, a bank payment terminal, a portable payment terminal, a digital assistant or PDA, a chip card (col. 5, line 23).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flenley in view of USP 7,353,281 to New, Jr. et al., hereinafter New.

As per claim 4, Flenley is silent is explicitly teaching the memory manager dynamically calculates the key of a possessor from a secret associated with said possessor and a so-called master key to which only the memory manager has access. Flenley does however teach as an embodiment an ATM card being presented to an ATM machine in order to authenticate the user of the card based on personal identification stored on the card. New takes this process one step further by generating the encryption key based on the user's identification and a private key [master key] of the server hosting the applications (col. 5, lines 5-10 and col. 6, lines 26-36). New's way of generating the encryption key is more secure than Flenley's because it does not take a user's secret information into forming the encryption key. The use of asymmetrical cryptography is well known in the art. It would have been obvious at the time of the invention to one of ordinary skill in the art to incorporate New's dynamic calculation of a key from a secret associated with the possessor and the master key into Flenley's system because it would protect the secret information of the user from an attacker. Protection of this assures the user is who he says he is. The function of New's teaching would have been predictable to one of ordinary skill in the art at the time of the invention.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flenley in view of USP 7,333,956 to Malcolm.

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As per claim 7, Flenley does not explicitly teach associating different security levels with the applications and using different encryption means according to the associated security level. Flenley does teach that his method has the option of using encryption or not. Malcolm security system invokes a more granular strategy by allowing the system to choose the appropriate level of security by using different levels of encryption (col. 36, lines 31-41). As one of ordinary skill in the art knows, different encryption algorithms are stronger than others. Also one of ordinary skill knows that key length also carries with it a measure increases strength. Having the choice of encryption strength not allow inherently increases the security of the system but also avoids extraneous overhead by having to encrypt everything to the highest possible level when only certain cases need this type of security. Whereas Flenley has an all or not approach to encryption, incorporating Malcolm's teaching would provide predictable results of more security without inefficiency. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Flenley with those of Malcolm in order to improve security without sacrificing efficiency.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL R. VAUGHAN whose telephone number is (571)270-7316. The examiner can normally be reached on Monday - Thursday, 7:30am - 5:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. R. V./

Examiner, Art Unit 2431

/Ayaz R. Sheikh/

Supervisory Patent Examiner, Art Unit 2431